



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

**REGION 8, MONTANA OFFICE
FEDERAL BUILDING, 10 West 15th St, Suite 3200
HELENA, MONTANA 59626**

Ref: 8MO

April 8, 2010

Mr. Mike Herrin
District Ranger
Three Rivers Ranger District
12858 U.S. Highway 2
Troy, Montana 59935

Re: CEQ # 20100056, EPA Comments on
Sparring Bulls Project DEIS

Dear Mr. Herrin:

The U.S. Environmental Protection Agency (EPA) Region VIII Montana Office has reviewed the Draft Environmental Impact Statement (DEIS) for the Kootenai National Forest's Sparring Bulls Project in accordance with EPA responsibilities under Section 102(2)(C) of the National Environmental Policy Act (NEPA), Section 309 of the Clean Air Act, and the Council on Environmental Quality (CEQ) regulations, 40 CFR Parts 1500-1508. Section 309 of the Clean Air Act directs EPA to review and comment in writing on the environmental impacts of any major Federal agency action. EPA's comments include a rating of both the environmental impact of the proposed action and the adequacy of the NEPA document.

EPA supports planning, design, and conduct of vegetation management activities in a manner that minimizes adverse environmental effects, and improves watershed conditions whenever possible, particularly in the watersheds of water quality impaired streams included on Montana's Clean Water Act Section 303(d) list (Lake Creek, Stanley Creek, Keeler Creek, Dry Creek). We are pleased that both of the action alternatives in the proposed Sparring Bulls project include activities to improve watershed conditions (i.e., 34.1 miles of road storage, and 3.8 miles of road decommissioning, including removal of approximately 40 old stream crossing structures, installing waterbars and removing unstable fill material, road maintenance and road BMP improvements on 62 miles of existing roads). We note that forest roads (road construction and use) are identified as a probable source of some of the water quality impairments in the Sparring Bulls project area.

Water quality improvements over the long-term are predicted in the DEIS as a result of the proposed watershed restoration actions. Accordingly it appears that the Sparring Bulls project would be consistent with Total Maximum Daily Loads (TMDLs) and attainment of water quality improvement in the 303(d) listed streams in the project area. Although we encourage the Kootenai National Forest to also coordinate with Montana DEQ TMDL program staff to assure that the Montana DEQ considers the proposed Sparring Bulls management actions to be consistent with TMDLs and water quality improvement in 303(d) listed streams.

The DEIS states that it is likely that some or all of the watershed restoration work would be funded and would occur within the next 5-7 years. We encourage the Forest Service to fund and implement all the proposed watershed restoration work rather than just some of the work, since it is important to restore water quality and full support of beneficial uses in the water quality impaired streams.

Alternative B is identified as the preferred alternative in the DEIS (page 2-8). However, we did not see much rationale or discussion in the DEIS explaining why Alternative B is preferred over Alternative C. Both Alternatives B and C include the proposed watershed restoration work. There appear to be 106 acres less timber harvest with Alternative C than with Alternative B, including 80 acres less regeneration harvest (i.e., timber harvest units #25, 25A, 26, 49, and 50, and fuels reduction unit #26F from Alternative B are dropped in Alternative C to maintain big game thermal cover; fuels reduction unit #13 is dropped in Alternative C to avoid use of mechanized equipment in the Cabinet West IRA; and the total harvest area around harvest units 12 and 40 is reduced in Alternative C to keep harvest openings 40 acres or less).

Alternative C, therefore, may offer slight advantages over Alternative B in regard to slightly reduced impacts to big game thermal cover and roadless values, although Alternative B may better reduce fire risks and better address insect and disease and forest health concerns in timber stands. It would be helpful to public understanding to provide additional discussion of such trade-offs in the FEIS, and explain the Kootenai National Forest's reasoning and rationale for identifying Alternative B as the preferred alternative.

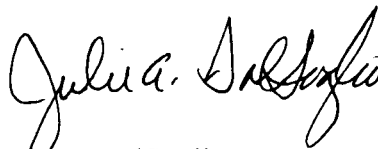
EPA supports conduct of vegetation management activities to reduce fuel loads and fire risks, susceptibility to insect and disease agents, increase ecological integrity, and restore forest resilience to fire. We generally favor understory thinning from below, slashing and prescribed fire to address fuels build-up with reduced ecological impacts; with retention of the larger more vigorous trees, particularly trees of desirable tree species whose overall composition may be in decline, such as Ponderosa pine, western larch, and western white pine. While the Sparring Bulls project appears to be generally consistent with restoration of fire as a natural disturbance process, it is not clear if retention of large healthy trees of desirable species is proposed with the timber harvests. It would be helpful if the extent of harvest and/or retention of large trees of desired species in the proposed Sparring Bulls timber harvests were more clearly identified and disclosed in the FEIS.

We encourage the Kootenai National Forest to retain large healthy trees of desirable species during proposed timber harvests. The larger healthier trees are generally long-lived and more fire resistant, and provide important wildlife habitat. Harvest of many live mature trees could potentially increase fire risk, as well as reduce wildlife habitat. If the forest canopy is opened too much by removal of large fire resistant trees it may promote more vigorous growth of underbrush and small diameter trees that would increase fuels and fire risk in subsequent years, contrary to the fire risk reduction purpose and need.

The EPA's further discussion and more detailed questions, comments, and concerns regarding the analysis, documentation, or potential environmental impacts of the Sparring Bulls Project DEIS are included in the enclosure with this letter. Based on the procedures EPA uses to evaluate the adequacy of the information and the potential environmental impacts of the proposed action and alternatives in an EIS, the DEIS has been rated as Category EC-2 (Environmental Concerns - Insufficient Information) due to potential short-term water quality effects and the need for coordination with MDEQ to assure project consistency with TMDLs and water quality restoration for 303(d) listed streams; and potential adverse effects to wildlife habitat and roadless values from proposed management activities. A copy of EPA's rating criteria is attached. We recommend additional analysis and information to fully assess and mitigate all potential impacts of the proposed management actions.

The EPA appreciates the opportunity to review and comment on the DEIS. If we may provide further explanation of our comments please contact Mr. Steve Potts of my staff in Helena at 406-457-5022 or in Missoula at 406-329-3313 or via e-mail at potts.stephen@epa.gov. Thank you for your consideration.

Sincerely,



Julie A. DalSoglio
Director
Montana Office

Enclosures

cc: Larry Svoboda/Connie Collins, EPA 8EPR-N, Denver
Robert Ray/Mark Kelley, MDEQ, Helena

EPA COMMENTS ON THE SPARRING BULLS PROJECT DRAFT ENVIRONMENTAL IMPACT STATEMENT, dated February 2010

Brief Project Overview:

The Kootenai National Forest (KNF), Three Rivers Ranger District, prepared the Sparring Bulls Project EIS to evaluate alternatives and disclose environmental impacts of proposed management activities in the drainages of Iron, Keeler, Stanley, Ross, Camp, and Dry Creeks, as well as several smaller streams tributary to Bull Lake and Lake Creek. The project area is located south of Troy, Montana, and encompasses approximately 135,000 acres, including 25,755 acres of private lands, 2,760 acres of State land, and 48,373 acres in the wildland urban interface (WUI). The project purpose and need is to improve vegetation and contribute to timber supply; increase forage habitat for big-game and grizzly bears; reduce hazardous ladder fuels, surface fuels, and canopy densities; and reduce sediment delivery and risk of road failures in the Lake Creek watershed. No action and two action alternatives were evaluated in detail in the DEIS.

Alternative A is the No Action alternative, which provides a baseline for comparison of the environmental effects of the other alternatives.

Alternative B is the proposed action, which includes 690 acres of improvement harvest, and 704 acres of regeneration harvest, and an estimated 8.6-10 MMBF of timber volume (709 acres or 51% tractor harvest, 648 acres or 46% skyline cable harvest, 37 acres or 3% hand thinned). Winter harvest would occur on 213 acres. Fuel treatments include 554 acres of machine pile/burn pile, 802 acres of yard tops/jackpot burn, 1 acre handslash/pile and 80 acres future underburn. An amount of 216 acres of non-commercial fuel reduction treatments would occur. Approximately 3,820 acres of prescribed burning is proposed. Four temporary roads totaling 0.8 miles and 62 miles of maintenance and BMP work on existing roads are proposed. Watershed improvement activities include placing 34 miles of road in intermittent stored service and decommissioning 3.8 miles of road. Alternative B would require Regional Forester approval of one clearcut area over 40 acres (i.e., 73 acre clearcut).

Alternative C was designed to meet the purpose and need and address the big game habitat and mechanical treatment in roadless area issues, and includes 664 acres of improvement harvest and 626 acres of regeneration harvest, and an estimated 7.8-9.3 MMBF of timber volume (644 acres or 50% tractor harvest, 607 acres or 47% skyline cable harvest, 37 acres or 3% hand thinned). Winter harvest would occur on 98 acres. Fuel treatments include 460 acres of machine pile/burn pile, 790 acres of yard tops/jackpot burn, 1 acre handslash/pile and 80 acres future underburn. An amount of 181 acres of non-commercial fuel reduction treatments would occur. Approximately 3,820 acres of prescribed burning is proposed. Four temporary roads totaling 0.8 miles and 62 miles of maintenance and BMP work on existing roads are proposed. Watershed improvement activities include placing 34 miles of road in intermittent stored service and decommissioning 3.8 miles of road.

Comments:

1. We appreciate the inclusion of reduction of sediment delivery and risk of road failures in the Lake Creek watershed as part of the purpose and need for the proposed project. We also appreciate the inclusion of alternatives descriptions and tables presenting important information and features of the alternatives, as well as Design Features and Mitigation Measures, and tables comparing alternatives in Chapters 2 (Tables 2-1 to 2-11); and inclusion of the color foldout alternatives maps, unit summary information, silvicultural diagnosis information, access management plan, BMPs, past harvests, landtypes, monitoring plan and glossary in the Appendices. The alternatives descriptions, tables, maps, figures and appendices facilitate improved project understanding, help define issues, and assist in evaluation of alternatives providing a clearer basis of choice among options for the decisionmaker and the public in accordance with the goals of NEPA.

Alternatives

2. There appear to be only small differences between the two action alternatives in regard to proposed vegetative treatments. Timber harvest units #25, 25A, 26, 49, and 50, and fuels reduction unit #26F from Alternative B are dropped in Alternative C to maintain big game thermal cover, and fuels reduction unit #13 is dropped in Alternative C to avoid use of mechanized equipment in the Cabinet West IRA (page 2-21). In addition, the total harvest area around harvest units 12 and 40 is reduced in Alternative C to keep harvest openings 40 acres or less. The timber harvest with Alternative C involves 106 fewer acres than with Alternative B, including 80 acres less regeneration harvest.

It appears, therefore, that Alternative C may result in a less impact to big game thermal cover than Alternative B (i.e., a reduction in big game thermal cover in Alternative C from the current 49% to 46%, while with Alternative B big game thermal cover would decrease to 45%, page 3-107). Alternative C would also impact inventoried roadless area slightly less with dropping of the 12 acre fuel reduction unit #13 in the Cabinet West IRA, which is included in Alternative B. Alternatives B and C both include the same amount of proposed watershed restoration work.

Alternative B is identified as the preferred alternative in the DEIS (page 2-8). However, we did not see much rationale or discussion in the DEIS explaining why Alternative B is preferred over Alternative C. In regard to water quality impacts both action alternatives appear equivalent (page 3-137). As noted above, it would appear that Alternative C may offer slight advantages over Alternative B in regard to slightly reduced impacts to big game thermal cover and roadless values, although Alternative B may better reduce fire risks and better address insect and disease concerns in timber stands. It would be helpful to public understanding to provide some discussion of such trade-offs in the FEIS, and

explain the Kootenai National Forest's reasoning and rationale for identifying Alternative B as the preferred alternative.

3. The DEIS Chapter 3 discussion of forest vegetation provides helpful information regarding forest structure and composition, fire ecology and forest succession, disturbance, insects and pathogens, fire regimes, fuels and fire risks. EPA supports conduct of vegetation management activities to reduce fuel loads and fire risks, susceptibility to insect and disease agents, increase ecological integrity, and restore forest resilience to fire.

We generally favor understory thinning from below, slashing and prescribed fire to address fuels build-up with reduced ecological impacts. We also favor retention of the larger more vigorous trees, particularly trees of desirable tree species whose overall composition may be in decline. We particularly support conduct of activities to restore desirable species in decline such as Ponderosa pine, western larch, and western white pine. The larger healthier trees are generally long-lived and more fire resistant, and provide important wildlife habitat. Harvest of many live mature trees could potentially increase fire risk, as well as reduce wildlife habitat. If the forest canopy is opened too much by removal of large fire resistant trees it may promote more vigorous growth of underbrush and small diameter trees that would increase fuels and fire risk in subsequent years, contrary to the fire risk reduction purpose and need.

While the Sparring Bulls project appears to be generally consistent with restoration of fire as a natural disturbance process, it is not clear if retention of large healthy trees of desirable species, such as western larch, Ponderosa pine, and western white pine, whose overall composition may be in decline is proposed with the timber harvests. We encourage the Kootenai National Forest to retain large healthy trees of desirable species during proposed timber harvests. It would be helpful if the extent of harvest and/or retention of large trees of desired species in the proposed Sparring Bulls timber harvests were more clearly identified and discussed in the FEIS.

Water Resources, Fisheries, Soils

4. EPA supports planning and conduct of vegetation management activities in a manner that minimizes other adverse environmental effects and addresses watershed restoration needs, particularly with projects that include watersheds of water quality impaired streams on Montana's Clean Water Act Section 303(d) list (e.g., Keeler, Dry, Lake and Stanley Creeks).

Measures which we encourage to reduce adverse watershed effects include: use of timber harvest methods that minimize ground disturbance (e.g., skyline cable logging, helicopter logging, and logging during winter on snow or frozen ground); minimization of new road construction; siting of needed roads away from streams and wetlands; avoiding and

minimizing road stream crossings; inclusion of watershed rehabilitation activities such as decommissioning and road storage, and road drainage improvements and BMP upgrades to reduce road sediment delivery to streams and improve watershed conditions; revegetation of disturbed ground; stream and bank stabilization; and inclusion of other watershed restoration activities as much as possible in a project.

EPA fully supports conduct of road maintenance and BMP and drainage improvements to forest roads, and decommissioning of roads that cannot be properly maintained, and reductions in road density to improve watershed conditions. Road system improvement measures are critical to protecting aquatic health (e.g., removing and replacing culverts, installing drainage dips or surface water deflectors, armoring drainage structures, grading and replacement of aggregate to reinforce wet surface areas, ditch construction and cleaning).

The DEIS indicates that Lake Creek and Stanley Creek are on Montana's Clean Water Act Section 303(d) list of water quality impaired waterbodies (page 3-123), and that Keeler Creek and Dry Creek are also listed as impaired, although for habitat alteration related impairments (not pollutant related impairments), for which a Total Maximum Daily Load (TMDL) is not required.

For your information Keeler Creek is listed as water quality impaired from its headwaters to Lake Creek (8.3 miles) due to only partially meeting a cold water fishery use. The probable causes for impairment is listed as low flow alterations and physical substrate habitat alterations, and probable sources listed as Forest Roads (Road Construction and Use) Silviculture Activities (TMDL not required since no pollutant related use impairment, <http://cwaic.mt.gov/>).

Dry Creek, tributary to Lake Creek, is listed as water quality impaired (1 Mile) due to only partially meeting a cold water fishery use, with probable causes of impairment listed as other flow regime alterations and physical substrate habitat alterations, and with probable sources of impairment listed as Highways, Roads, Bridges, Infrastructure (New Construction) (TMDL not required since no pollutant related use impairment).

Lake Creek is listed as water quality impaired from Bull Lake outlet to the mouth (18.2 miles) due to only partially meeting aquatic life and cold water fishery uses and not meeting a drinking water use. Probable causes of impairment are listed as Cd, Cu, Pb, Hg, and Zn, nitrate/nitrite and sedimentation/siltation, and probable sources of impairment listed as mine tailings, natural sources and Forest Roads (Road Construction and Use). A TMDL is required.

Stanley Creek is listed as water quality impaired to its confluence with Fairway Creek (3.5 miles) due to only partially meeting aquatic life and cold water fishery uses. Probable causes of impairment are listed as unknown, copper, and nutrient/eutrophication

and biological indicators, and probable sources of impairment are listed as mine tailings and Streambank Modifications/destablization. A TMDL is required.

Forest roads (road construction and use) are, thus, identified as a probable source of water quality impairment associated with sedimentation/siltation in Lake Creek, and forest roads (road construction and use) and silviculture activities are also listed as probable sources of impairment in Keeler Creek, while highways, roads, bridges, infrastructure (new construction) are listed as probable sources of impairment in Dry Creek, although TMDLs are not required for Keeler and Dry Creeks. Actions often recommended to address TMDL goals to improve water quality include:

- *properly maintain forest roads and implement road BMPs
- *decommission forest roads that are surplus to the needs of management and access
- *upgrade undersized culverts be upgraded to better accommodate large floods and/or realign culverts to provide fish passage,
- *minimize new road construction and particularly road stream crossings
- *locate roads away from streams and riparian areas as much as possible
- *use adequate BMPs be used on all timber harvest operations
- *emphasize use of less disturbing harvest methods that minimize ground disturbance and erosion potential (skyline, helicopter, logging on snow or frozen ground)
- *provide adequate riparian buffers (conform to INFISH standards)
- *address other existing sediment sources to streams such as unstable streambanks

It is EPA's policy that proposed activities in the drainages of 303(d) listed streams should not cause further degradation of water quality, and should be consistent with the State's TMDLs and water quality restoration plans. Such consistency means that if pollutants may be generated during project activities, mitigation or restoration activities should also be included to reduce existing sources of pollution to offset or compensate for pollutants generated during project activities in accordance with the TMDL and long-term restoration plan. Recognizing uncertainties and desiring a margin of safety, such compensation should more than offset pollutants generated, resulting in overall reductions in pollution consistent with long-term water quality improvement and restoration of support of beneficial uses. Watershed restoration activities that compensate for pollutant production during management activities in watersheds of 303(d) listed streams should also be implemented within a reasonable period of time in relation to pollutant producing activities (e.g., 5 years).

We are pleased that both of the action alternatives include activities to improve watershed conditions (i.e., 34.1 miles of road storage, and 3.8 miles of road decommissioning, including removal of approximately 40 old stream crossing structures, installing waterbars and removing unstable fill material, road maintenance and road BMP

improvements on 62 miles of existing roads, pages 1-6, 2-16). The same amount of watershed improvement activities are proposed with Alternatives B and C, so there is little distinction between the two action alternatives with regard to potential water quality improvements. The DEIS indicates a negligible difference in water quality effects between Alternative B and Alternative C at the Lake Creek watershed scale. Alternative C would harvest 106 fewer acres than Alternative B, which would not affect water yield at the Lake Creek watershed scale, and there would be no measurable difference in sediment delivery between alternatives (page 3-137).

The DEIS also includes analysis of the potential for increased stream flows induced by timber harvest and associated effects on channel stability/degradation, as well as sediment contributions to surface waters. Analytical results in the DEIS state that the combined effects of all the proposed harvest and burning activities would increase ECA by 1% in the Lake Creek watershed, which would not result in measurable stream flow changes or effect on channel conditions (page 3-136). Peak flow increases in the tributaries would not cause scour that delivers sediment to Lake Creek (page 3-136). The DEIS also states that while there may be slight increase in the amount of sediment to Lake Creek tributaries during the 3-4 year period of road reconstruction and timber haul, the expected amount of sediment reaching Lake Creek is expected to be non-measurable; and that after completion of harvest activities the sediment contributed to Lake Creek would decline slightly because of the BMP work implemented with the sale. It is also expected that over time proposed watershed restoration work would result in much less sediment production in Keeler, Madge, Camp Creeks, and then to Lake Creek (estimated to be 13,000 tons, page 3-137).

The amount of sediment reduced over time is expected to be about 65 times the amount of sediment produced by the work; and bank erosion rates would decline in Madge, Camp and Keeler Creeks resulting in less sediment. In addition it is stated that the decline in sediment is likely to reduce the cumulative stress on Lake Creek's aquatic life and compensate for some of the degradation occurring on private land. Similar overall long-term beneficial water quality effects appear to be predicted from review of the DEIS cumulative effects to other waterbodies in the project area (e.g., Stanley Creek, Hiatt Creek, Ross Creek, Bull lake, Dry/Spring Creek, Iron Creek).

It appears to us, therefore, that the Sparring Bulls project would be consistent with TMDLs and promotion of water quality improvement in the 303(d) listed streams. Although we still recommend that the Kootenai NF coordinate with Montana DEQ TMDL program staff to assure that the MDEQ also considers the proposed Sparring Bulls management actions to be consistent with TMDLs and water quality improvement in 303(d) listed streams (contact MDEQ staff such as Mr. Mark Kelley at 406-444-3508, Mr. Dean Yashan at 406-444-5317, and/or Mr. Robert Ray at 406-444-5319).

5. Management of roads and motorized uses is an important issue in watershed and forest management, since roads are often the major anthropogenic sediment source adversely affecting hydrology, water quality, and fisheries of streams in National Forests. Improperly designed and poorly located and/or maintained roads can modify natural drainage networks and accelerate erosional processes resulting in increased stream sedimentation, degradation of aquatic habitats, and altered channel morphology.

We are pleased that road maintenance work would be implemented at appropriate sites on approximately 62 miles of haul road to reduce sediment sources (e.g., replacement and installation of drain dips and culverts, constructing or cleaning catchbasins, blading, dust abatement, buttressing cutslopes and fillslopes, and resurfacing). We do want to note that routine road maintenance and implementation of road BMPs are often deficient on Forest Service roads due to limited and often inadequate funding for road maintenance.

We are pleased that the DEIS states that it is likely that some or all of the watershed restoration work would be funded and would occur within the next 5-7 years (page 2-16). We encourage the Forest Service fund and implement all of the proposed watershed restoration work rather than just some of the work, since it is important to restore water quality and full support of beneficial uses in water quality impaired streams.

6. We are pleased that no permanent roads appear to be proposed and only four temporary road spurs totaling 0.8 miles are proposed (Table 2-2, page 2-12). The temporary road to unit 12 is within the Camp Creek RHCA in the vicinity of where it leaves FSR 4603 (also within the RHCA, page 3-179). We encourage locating roads in upland locations that away from RHCAs as much as possible.

We realize Kootenai NF staff are knowledgeable regarding road planning, design, construction and maintenance measures to minimize water quality effects, however, we still want to share some of our general recommendations regarding roads for your information as follows:

- * minimize road construction and reduce road density as much as possible to reduce potential adverse effects to watersheds;
- * locate roads in upland locations away from streams and riparian areas as much as possible;
- * locate roads away from steep slopes or erosive soils;
- * minimize the number of road stream crossings;
- * stabilize cut and fill slopes;

- * provide for adequate road drainage and control of surface erosion with measures such as adequate numbers of waterbars, maintaining crowns on roads, adequate numbers of rolling dips and ditch relief culverts to promote drainage off roads avoid drainage or along roads and avoid interception and routing sediment to streams;
- * consider road effects on stream structure and seasonal and spawning habitats;
- * allow for adequate large woody debris recruitment to streams and riparian buffers near streams;
- * properly size culverts to handle flood events, pass bedload and woody debris, and reduce potential for washout;
- * replace undersized culverts and adjust culverts which are not properly aligned or which present fish passage problems and/or serve as barriers to fish migration;
- * use bridges or open bottom culverts that simulate stream grade and substrate and that provide adequate capacity for flood flows, bedload and woody debris where needed to minimize adverse fisheries effects of road stream crossings.

We also encourage conduct of inspections and evaluations to identify conditions on roads and other anthropogenic sediment sources in the watersheds in the project area that may cause or contribute to sediment delivery and stream impairment, and to include activities in the project to correct as many of these conditions and sources as possible.

Grading of unpaved roads in a manner that contributes to road erosion and sediment transport to streams and wetlands should be avoided. It is important that road maintenance (e.g., grading) be focused on reducing road surface erosion and sediment delivery from roads to area streams. Practices of expediently sidecasting graded material over the shoulder and widening shoulders and snow plowing can have adverse effects upon streams, wetlands, and riparian areas that are adjacent to roads. We also encourage graveling of haul roads; and closing roads or avoiding road use during spring breakup conditions to reduce rutting of roads that increase road erosion and sediment production (i.e., ruts channel road runoff along roads); and avoiding snow plowing of roads later in winter for log haul to limit runoff created road ruts during late winter thaws.

Forest Service Region 1 provides training for operators of road graders regarding conduct of road maintenance in a manner that protects streams and wetlands, (i.e., Gravel Roads Back to the Basics). If there are road maintenance needs on unpaved roads adjacent to streams and wetlands we encourage utilization of such training (contact Donna Sheehy, FS R1 Transportation Management Engineer, at 406-329-3312).

We also note that there are training videos available from the Forest Service San Dimas Technology and Development Center for use by the Forest Service and its contractors (e.g., "Forest Roads and the Environment"-an overview of how maintenance can affect watershed condition and fish habitat; "Reading the Traveled Way" -how road conditions create problems and how to identify effective treatments; "Reading Beyond the Traveled Way"-explains considerations of roads vs. natural landscape functions and how to design maintenance to minimize road impacts; "Smoothing and Reshaping the Traveled Way"-step by step process for smoothing and reshaping a road while maintaining crowns and other road slopes; and "Maintaining the Ditch and Surface Cross Drains"-instructions for constructing and maintaining ditches, culverts and surface cross drains).

7. EPA considers the protection, improvement, and restoration of wetlands and riparian areas to be a high priority. Wetlands and riparian areas increase landscape and species diversity, and are critical to the protection of designated water uses. Executive Order 11990 requires that Federal Agencies *"take action to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency's responsibilities..."* and agencies are further directed to *"avoid undertaking or providing assistance for new construction located in wetlands unless the head of the agency finds (1) that there is no practicable alternative to such construction, and (2) that the proposed action includes all practicable measures to minimize harm to wetlands which may result from such use..."*.

We are pleased that the DEIS states that the Sparring Bulls project would comply with Executive Order 11990 (page 3-159), and that all wetlands are identified as Riparian Habitat Conservation Areas (RHCAs). No timber harvest or operation of heavy equipment or road construction would occur in wetlands, including perennial seeps and springs; no prescribed fire would be ignited in wetlands although fire would be allowed to burn into adjacent wetlands (pages 3-129, 3-159). The DEIS states that prescribed fire may enter wetlands, but due to the naturally moist conditions of these areas mostly low severity fire is anticipated, which should closely mimic natural fire conditions and no long term adverse effects are expected.

It is also stated that no wetlands have been identified adjacent to any of the proposed timber sale units except those associated with streamside riparian areas. Wetlands are found below Prescribed Burns P, N, R, U. Since water yield effects of the prescribed burns are expected to be slight, there probably would not be much increase in water to the wetlands. However, any water yield increase to wetlands would be considered a positive effect.

We recommend that harvest units be reviewed in the field to identify wetlands or verify the lack of wetlands in units. If wetlands are found they should be identified on the Sale Area Map and flagged on the ground so that timber contractors will be able to avoid them. For your information, EPA has identified general recommendations for "National

Management Measures to Protect and Restore Wetlands and Riparian Areas for the Abatement of Nonpoint Source Pollution” at

<http://www.epa.gov/owow/nps/wetmeasures/pdf/guidance.pdf> .

8. The Sparring Bulls Project should also be consistent with the Interior Columbia Basin (ICB) Strategy to maintain and restore the health of watersheds, riparian, and aquatic resources to sustain aquatic and terrestrial species and provide water of sufficient quality and quantity to support beneficial uses (see <http://www.icbemp.gov/html/icbstrat.pdf> ; and “A Framework for Incorporating the Aquatic and Riparian Habitat Component of the Interior Columbia Basin Strategy into BLM and Forest Service Plan Revisions,” <http://www.icbemp.gov/html/aqripfrm7804.pdf>). It is important that proposed activities be consistent with the riparian management objectives described in the ICB Strategy, which include:

- * Achieve physical integrity of aquatic ecosystems;
- * Provide an amount and distribution of woody debris sufficient to sustain physical and biological complexity;
- * Provide adequate summer and winter thermal regulation;
- * Provide appropriate amounts and distributions of source habitats for riparian- or wetland-dependent species; and
- * Restore or maintain water quality and hydrologic processes.
- * Restore or maintain naturally functioning riparian vegetation communities.

We are pleased that all timber management activities would be conducted to comply with INFISH standards and guidelines avoiding harvest in RHCA buffers; no timber harvest and no equipment operation would occur in wetlands and appropriate use of BMPs to all harvest and vegetation management activities (page 3-129). This should likely promote consistency with the ICB Strategy.

9. There appear to be minor inconsistencies regarding the amount of proposed watershed improvement and road stabilization work as reported in Chapter 2 (page 2-16) and Chapter 3 (page 3-180, 3-181). These inconsistencies should be corrected in the FEIS.

Soils

10. The discussion of soils indicates that there are 50 recognized landtypes on the KNF (page 3-185), however, we did see much discussion in the Soils Section of Chapter 3 regarding the location of sensitive or particularly erosive landtypes in the project area relative to proposed management activities, and a summary of potential effects of management activities on erosive landtypes. Appendix F indicates that landtypes 103 and 407 in the Sparring Bulls project area can have highly erodible streambanks if disturbed; landtype 108 can be prone to slumping and gullyng on steep slopes; landtypes 351 and 352 could

have cutbank slumping and sediment production if used for roads; landtype 357 may have high sediment delivery potential and landslide potential if used for roads.

We suggest that additional discussion of proposed management activities that may involve disturbance of these more sensitive or erodible landtypes be included in the Chapter 3 discussion of soils. Are any road construction activities proposed for landtypes 351, 352 or 357? Do any of the 35 proposed tractor timber harvests units (page 3-187) include tractor use on more sensitive or erosive landtypes? We generally recommend avoidance of timber harvest and road construction in areas with high risk of sediment production or erosion potential or areas highly susceptible to mass failure.

11. We are pleased that certain timber harvest units have been identified for less disturbing winter logging or skyline cable logging and or winter harvest on snow or frozen ground to reduce disturbance to soils, and that detrimental disturbance will be minimized by limiting the total area dedicated to skid trails, temporary roads, and landings (page 2-18). We are also pleased that many other mitigation measures to reduce detrimental soil disturbance are also proposed as follows:

- disturbed areas will be reused to the extent possible.

- excavated skid trails, temporary roads and landings used for harvest activities will be scarified at least 6-12", and recontoured if possible.

- slash will be used instead of waterbars to control runoff on skid trails wherever it is feasible and effective.

- timber sale contract will require removal of non-sawlog material to the landing using provisions C2.2 and C2.11 to reduce ground disturbance associated with grapple piling.

- in all grapple pile units, live vegetation removal will be minimized during piling operations by removing only activity-created fuels and existing down dead material that exceeds desired fuel loading.

- the size class of the excavator will be specified in the timber sale and slash disposal contracts In order to minimize soil compaction, and grousers (cleats on the tracks) are recommended for excavators.

- excavators and feller bunchers will generally not be operated on sustained slopes greater than 40%, and excavators will not be operated when soil moisture conditions will result in rutting.

It is important that BMPs and mitigation measures effectively protect soils and avoid sediment production and transport. Measures to protect soils and reduce erosion that during ground based harvests that we suggest for consideration include:

- * minimizing the total area of skid trails, temporary roads, and landings;
- * use of existing skid trails wherever possible;
- * restrictions on skidding with tracked machinery in sensitive areas;
- * operating tracked machinery on slash mats;
- * constructing water bars;
- * creating brush sediment traps;
- * ripping or scarifying skid trails and landings to decompact soils;
- * adding slash to ripped surfaces to trap sediment after recontouring and ripping;
- * seeding/planting of forbs, grasses or shrubs to reduce soil erosion and hasten recovery;
- * rehabilitating skid trails and log landings with erosion control/soil stabilization (water bars, slash placement) and seeding/planting of forbs, grasses or shrubs to reduce soil erosion and hasten recovery.

We are pleased that the DEIS soils effects analysis concludes that disturbance in the activity areas is expected to meet Regional soil guidelines of not exceeding 15% cumulative detrimental disturbance (page 3-193).

12. We note that the soils monitoring identified in Appendix G indicates that units 11, 25, 35, 61, and 62 will be monitored using Regional protocols. The basis for selecting these units for soils monitoring should be disclosed. We suggest conduct of soils monitoring in units with higher likelihood of detrimental soils disturbance to better verify that the Regional guideline of not exceeding 15% cumulative detrimental disturbance is achieved even where there are higher probabilities of disturbance.
13. It is important that adequate woody debris is retained on site to maintain soil productivity. We are pleased that long-term soil productivity and small mammal habitat will be protected by providing for recommended levels of coarse woody debris (CWD) on site; and that silvicultural and burning prescriptions will be developed to retain sufficient levels of coarse woody debris on site after harvest and where slash disposal occurs (page 2-18).

Monitoring

14. We believe monitoring should be an integral part of land management. The EPA endorses the concept of adaptive management whereby effects of implementation activities are determined through monitoring (i.e., ecological and environmental effects). It is through the iterative process of setting goals and objectives, planning and carrying out projects, monitoring impacts of projects, and feeding back monitoring results to

managers so they can make needed adjustments, that adaptive management works. In situations where impacts are uncertain, monitoring programs allow identification of actual impacts, so that adverse impacts may be identified and appropriately mitigated.

The EPA particularly believes that water quality/aquatics monitoring is a necessary and crucial element in identifying and understanding the consequences of one's actions, and for determining effectiveness in BMPs in protecting water quality. The achievement of water quality standards for non-point source activities occurs through the implementation of BMPs. Although BMPs are designed to protect water quality, they need to be monitored to verify their effectiveness. If found ineffective, the BMPs should be revised, and impacts mitigated. We encourage adequate monitoring budgets for conduct of aquatic monitoring to document BMP effectiveness and long-term water quality improvements associated with road BMP work and road decommissioning.

Monitoring is briefly discussed in the DEIS on page 2-21 and in Appendix G. While we are pleased that monitoring will include evaluation of the effectiveness of BMP implementation and adequacy of RHCAs protection, we generally recommend that some aquatic monitoring also be included in projects, using aquatic monitoring parameters such as channel cross-sections, bank stability, width/depth ratios, riffle stability index, pools, large woody debris, fine sediment, pebble counts, macroinvertebrates, etc.,.

We believe a minimal level of aquatic monitoring helps determine actual water quality effects, and can verify that effects are as predicted, and can validate predictions of long-term water quality improvement associated with implementation of watershed restoration work. This is particularly helpful where there are 303(d) listed streams that need to be put on a track of water quality improvement. Biological monitoring can also be helpful, since monitoring of the aquatic biological community integrates the effects of pollutant stressors over time and, thus, provides a more holistic measure of impacts than grab samples.

We note that there may be PACFISH/INFISH Biological Opinion (PIBO) monitoring sites in the project area that could also be used to help evaluate actual project effects (<http://www.fs.fed.us/biology/fishecolony/cmp/index.html>). If there are PIBO monitoring sites in the area they should also be considered for their potential to further evaluate project effects. We encourage use of the following reference materials in designing and disclosing an aquatic monitoring program:

The Forest Service publication, "Guide to Effective Monitoring of Aquatic and Riparian Resources," RMRS-GTR-121, available at, http://www.fs.fed.us/rm/pubs/rmrs_gtr121.html .

The Forest Service publication, "Testing common stream sampling methods for broad-scale, long-term monitoring," RMRS-GTR-122, available at,

http://www.fs.fed.us/rm/pubs/rmrs_gtr122.html .

“Aquatic and Riparian Effectiveness Monitoring Plan for the Northwest Forest Plan,” Gordon H. Reeves, David B. Hohler, David P. Larsen, David E. Busch, Kim Kratz, Keith Reynolds, Karl F. Stein, Thomas Atzet, Polly Hays, and Michael Tehan, February 2001. Available on-line at, www.reo.gov/monitoring/watershed/aremp-compile.htm .

Monitoring Guidelines to Evaluate Effects of Forestry Activities in the Pacific Northwest and Alaska; Lee H. McDonald, Alan W. Smart and Robert C. Wissmar; May 1991; EPA/910/9-91-001;

“Aquatic Habitat Indicators and Their Application to Water Quality Objectives Within the Clean Water Act,” Stephen B. Bauer and Stephen C. Ralph, 1999, EPA-910-R99-014. (This publication is available on-line at, <http://www.pocketwater.com/reports/ahi.pdf>)

Western Pilot Study: Field Operations Manual for Wadeable Streams; Environmental Monitoring and Assessment Program Protocols, Edited by David V. Peck, James M. Lazorchak, and Donald J. Klemm, April 2001, available on-line at, <http://www.epa.gov/emap/html/pubs/docs/groupdocs/surfwatr/field/ewwsm01.pdf> .

Montana DEQ’s Water Quality Monitoring and Assessment information can be found on the website, <http://www.deq.state.mt.us/wqinfo/monitoring/Functions.asp><http://www.deq.state.mt.us/>

Rapid Bioassessment Protocols for use in Streams and Rivers; James A. Plafkin, May 1989, EPA/444/4-89-001.

“Montana Stream Management Guide; for Landowners, Managers, and Stream Users,” Montana Dept. Of Environmental Quality; December 1995.

The Forest Service Region 5 document entitled, “Water Quality Management for Forest System Lands in California: Best Management Practices,” September 2000, is a useful reference for BMP development and BMP effectiveness monitoring. It can be found at the website, <http://fsweb.r5.fs.fed.us/unit/ec/water/water-best-mgmt.pdf> .

“Protocol for Developing Sediment TMDLs” EPA 841-B-99-004, October 1999 <http://www.epa.gov/owow/tmdl/sediment/pdf/sediment.pdf>

Air Quality

15. The action alternatives include a significant amount of burning in harvested areas and prescribed burning. Both action alternatives propose prescribed burning of 23 units totaling 3,820 acres (average size 349 acres per unit) in the Bull, Camp, Copper, Iron,

Grouse, Halverson, North Fork Keeler, South Fork Keeler, Porcupine, Ross, Spring, Dry, Stanley, and Thicket Creek watersheds (page 3-180). Alternatives B and C include 771 acres and 652 acres of pile burning, respectively, and 80 acres of future underburning (page 3-236).

The EPA supports judicious and well planned use of prescribed fire to reduce hazardous fuels and restore fire to forest ecosystems. Although, as you know smoke from fire contains air pollutants, including tiny particulates (PM₁₀ and PM_{2.5}) which can cause health problems, especially for people suffering from respiratory illnesses such as asthma or emphysema, or heart problems. Particulate concentrations that exceed health standards have been measured downwind from prescribed burns. It is important that the proposed project be consistent with the National Ambient Air Quality Standards (NAAQS) for PM₁₀ and PM_{2.5}, (see at, <http://www.epa.gov/air/criteria.html>).

In addition, prescribed fire could have impacts on Class II areas and Federally-designated Class I areas, and smoke can reduce visibility and diminish the appreciation of scenic vistas (Wilderness Areas or National Parks). The Montana DEQ has returned administration of the clean air visibility program to EPA (see <http://deq.mt.gov/AirQuality/Visibility.mcp.x>). Please call Ms. Laurel Dygkowsky of EPA in Denver for latest information on visibility issues in Montana at 303-312-6144. See also, <http://www.fs.fed.us/pnw/fera/research/smoke/haze/index.shtml> .

Prescribed burning done in accordance with a certified State Smoke Management Plan such as the Montana/Idaho Airshed Group is consistent with EPA's *Interim Air Quality Policy on Wildland and Prescribed Fire*. This is Federal policy which reconciles the competing needs to conduct prescribed fires to manage vegetation and restore fire to fire adapted ecosystems while at the same time maintaining clean air to protect public health. Smoke impacts from prescribed fire carried out during periods of favorable conditions for smoke dispersion are less hazardous than smoke impacts during a wildfire. Careful scheduling of the many burning activities to coincide with proper climatological and meteorological conditions helps avoid air quality problems. A copy of the *Interim Air Quality Policy* can be found at: <http://www.epa.gov/ttn/oarpg/t1/memoranda/firefnl.pdf> . EPA air quality guidance can be found at http://www.epa.gov/air/oaq_caa.html/ . It may be of interest to the public to display the website for the Montana/Idaho State Airshed Group, <http://www.smokemu.org> .

We encourage use of smoke management techniques during burns to minimize smoke in populated areas as well as visibility effects. Each prescribed burn site will have unique characteristics, but smoke impacts can be minimized by burning during weather conditions with optimal humidity levels and wind conditions for the types of materials being burned. Smoke impacts can also be minimized by limiting the amount of materials and acreage burned at any one time.

The DEIS includes a good analysis and discussion of project air quality conditions and effects from proposed burning activities (pages 3-227 to 3-238). We particularly appreciate the Tables showing Class I Areas of Concern in the Project Area (Table 3-95), Visibility and PM Particulates (Table 3-96), Particulate Emissions By Burn Type (Table 3-97), and Concentrations of PM2.5 in Areas of Concern (Table 3-98), which improve understanding of potential air quality impacts. We also appreciate the discussion of measures to minimize particulate emissions reduce adverse air quality effects during burning (page 3-232).

We are pleased that prescribed burning will meet State Air Quality Standards and the requirements of the State Implementation Plan and Montana/Idaho Smoke Management Plan (page 3-229). It is important to disclose that even though prescribed burns will be scheduled during periods of favorable meteorological conditions for smoke dispersal, the weather can change causing smoke not to disperse as intended. This can be especially problematic for smoldering pile burns when a period of poor ventilation follows a good ventilation day.

If there is potential for smoke to drift into populated areas, we recommend that notices be placed in the local newspaper at the beginning of each burn season, and additional efforts be made to contacts residents near burns by telephone to make them aware of burns and potential air quality impacts. This will help sensitive people (e.g., people suffering from respiratory illnesses such as asthma or emphysema, or heart problems) to plan accordingly.

16. We note that the Table of Contents indicates that the Chapter 3 air quality discussion begins on page 3-237 when in fact it begins on page 3-227. There are a few other similar discrepancies in the Table of Contents that should be corrected in the FEIS.

Noxious Weeds

17. Weeds are a great threat to biodiversity and can often out-compete native plants and produce a monoculture that has little or no plant species diversity or benefit to wildlife. We appreciate the discussion of noxious weeds (pages 3-196 to 3-200). Weed prevention is the most cost-effective way to manage and control weeds by avoiding new infestations and spread of weeds, and thus, avoiding the need for subsequent weed treatments. We encourage tracking of weed infestations, control actions, and effectiveness of control actions in a Forest-level weed database.

The DEIS indicates that measures to reduce weed spread into timber harvest units include: spraying haul routes as needed to reduce or eliminate noxious weed seed adjacent to harvest units; and washing all off-road logging equipment and all road maintenance equipment prior to entry on NFS lands (page 3-199). We note that in addition to haul roads, other areas where soils are disturbed may need to be sprayed to

reduce weed spread (e.g., log landings and roads proposed for decommissioning or storage). It is also important that disturbed areas be reseeded as soon as possible after disturbance to reduce weed invasions.

While we support use of weed control chemicals where needed, we encourage prioritization of management techniques that focus on non-chemical treatments first, with reliance on chemicals being the last resort. Early recognition and control of new infestations is encouraged to stop the spread of the infestation and avoid wider future use of herbicides, which could correspondingly have more adverse impacts on water quality, fisheries, and biodiversity. We are pleased that all herbicide use will comply with the April 2007 KNF Invasive Plant Management Record of Decision (page 2-20), since weed control chemicals can be toxic and have the potential to be transported to surface or ground water following application.

It is important that the water contamination concerns of herbicide usage be fully evaluated and mitigated. All efforts should be made to avoid movement or transport of herbicides into surface waters that could adversely affect fisheries or other water uses. The Montana Water Quality Standards include a general narrative standard requiring surface waters to *be free from substances that create concentrations which are toxic or harmful to aquatic life*. Herbicide drift into streams and wetlands could adversely affect aquatic life and wetland functions such as food chain support and habitat for wetland species. We also recommend that road ditches leading to intermittent and perennial streams be flagged as no-spray zones and not sprayed with picloram based herbicides, since picloram (Tordon) is a particularly persistent, mobile and toxic herbicide. Herbicides should be applied at the lowest rate effective in meeting weed control objectives and according to guidelines for protecting public health and the environment.

Some suggestions we have to reduce potential water quality and fisheries effects from herbicide spraying are to assure that applicators: 1) are certified and fully trained and equipped with the and appropriate personal protective equipment; 2) apply herbicides according to the label; and 3) herbicide applicators should take precautions during spraying (e.g., applying herbicide only after careful review of weather reports to ensure minimal likelihood of rainfall within 24 hours of spraying; special precautions adjacent to the stream to reduce runoff potential; etc.); 4) no herbicide spraying will occur in streams and wetlands or other aquatic areas (seeps, springs, etc.); 5) streams and wetlands in any area to be sprayed be identified and flagged on the ground to assure that herbicide applicators are aware of the location of wetlands, and thus, can avoid spraying in or near wetlands; 6) use treatment methods that target individual noxious weed plants in riparian and wetland areas (depending on the targeted weed species, manual control or hand pulling may be one of the best options for weed control within riparian/wetland areas or close to water).

We also recommend that weed treatments be coordinated with the Forest botanist to assure protection to sensitive plants, and coordinated with fisheries biologists and wildlife biologists to assure that sensitive fisheries and wildlife habitat areas are protected. Please also note that there may be additional pesticide use limitations that set forth geographically specific requirements for the protection of endangered or threatened species and their designated critical habitat. This information can be found at <http://www.epa.gov/espp/bulletins.htm> . You may also want to consider use of a more selective herbicide (clopyralid) for use in conifer associated communities to reduce impacts on non-target vegetation. We also note that spotted knapweed, which is a prevalent noxious weed species in western Montana, is non-rhizomatous and should be relatively easy to control with lower rates of the most selective low toxicity herbicides.

For your information, the website for EPA information regarding pesticides and herbicides is <http://www.epa.gov/pesticides/> . The National Pesticide Telecommunication Network (NPTN) website at <http://nptn.orst.edu/tech.htm> which operates under a cooperative agreement with EPA and Oregon State University and has a wealth of information on toxicity, mobility, environmental fate on pesticides that may be helpful (phone number 800-858-7378).

18. Prescribed fire also has the potential to stimulate weed growth (e.g., Dalmation toadflax or leafy spurge), and can destroy insects planted for biological weed control. We suggest that these considerations be evaluated for burn units. The effect of burning on the potential stimulation of noxious weeds be evaluated during site-specific project level analysis. We are pleased that the DEIS states that burn severities would be low to maintain health understory plant communities and limit soil exposure so that the burned areas would be less vulnerable to weed spread (page 3-199). If sufficient vegetation is killed by prescribed burning it may warrant revegetation efforts. Where no native, rapid cover seed source exists, we recommend using a grass mixture that does not include aggressive grasses such as smooth brome, thereby allowing native species to eventually prevail.
19. Weed seeds are transported by wind and water, animal fur, feathers and feces, but primarily by people. The greatest vector for spread of weeds is through motorized vehicles-cars, trucks, ATVs, motorcycles, and even snowmobiles. Weed seeds are often caught on the vehicle undercarriage in mud and released on the Forest. A single vehicle driven several feet through a knapweed site can acquire up to 2,000 seeds, 200 of which may still be attached after 10 miles of driving (Montana Knapweeds: Identification, Biology and Management, MSU Extension Service).

We believe an effective noxious weed control program should consider restrictions on motorized uses, particularly off-road uses, where necessary. Off-road vehicles travel off-trail, disturbing soil, creating weed seedbeds, and dispersing seeds widely. Weed seed dispersal from non-motorized travel is of lesser concern because of fewer places to

collect/transport seed, and the dispersal rate and distances along trails are less with non-motorized travel. Restrictions on motorized uses may also be needed after burning and harvest activities until native vegetation is reestablished in the disturbed areas to reduce potential for weed infestation of the disturbed sites.

Wildlife/T&E Species

20. We are pleased that harvest treatments are not proposed in designated effective or replacement old growth (page 3-119). We support protection of old growth habitats and maintenance or restoration of native, late-seral overstory trees and forest composition and structure within ranges of historic natural variability. Old growth stands are ecologically diverse and provide good breeding and feeding habitat for many bird and animal species, which have a preference or dependence on old growth (e.g., barred owl, great gray owl, pileated woodpecker). Much old growth habitat has already been lost, and we it is important that management direction prevent continued loss of old growth habitat and promote long-term sustainability of old growth stands, and restore where possible the geographic extent and connectivity of old growth.

Prescribed burning is proposed in 81 acres of designated effective old growth with burn Unit V. We do not oppose underburning to reduce fuel loads and ladder fuels in old growth, since it lessens the threat of stand removal by a wildfire and reduces competition with other vegetation to promote large diameter trees. Careful prescribed burning in old growth stands can reduce fuel loads and fire risk in such stands, and thus, may promote long-term protection and sustainability of old growth stands.

21. We are concerned that the DEIS biological assessment indicates that Alternatives B and C “may affect and are likely to adversely affect” the threatened grizzly bear (page 3-63) due to the extent of disturbance associated with proposed watershed improvement work. We support the conduct of the watershed improvement work in order to promote water quality improvement over the long-term, and note that improvement in habitat for the threatened bull trout should result from the proposed watershed improvement work (page 3-62), and that adverse effects to grizzly bear should be short-term. We encourage the Forest Service to only allow motorized access on currently barriered roads in core grizzly bear habitat that is essential for conduct of watershed improvement work. This should limit grizzly bear impacts from watershed improvement activities.

The DEIS indicates that the proposed project “may affect, but are not likely to adversely affect” the threatened Canada Lynx (page 3-68), but will meet all objectives, standards and guidelines in the 2007 Northern Rockies Lynx Management Direction. If it is determined that the finally selected project alternative could adversely affect any threatened or endangered species (e.g., grizzly bear, gray wolf, lynx, bull trout) the final EIS should include the associated U.S. Fish & Wildlife Service (USFWS) Biological Opinion or formal concurrence for the following reasons:

(a) NEPA requires public involvement and full disclosure of all issues upon which a decision is to be made;

(b) The CEQ Regulations for Implementing the Procedural Provisions of NEPA strongly encourage the integration of NEPA requirements with other environmental review and consultation requirements so that all such procedures run concurrently rather than consecutively (40 CFR 1500.2(c) and 1502.25); and

(c) The Endangered Species Act (ESA) consultation process can result in the identification of reasonable and prudent alternatives to preclude jeopardy, and mandated reasonable and prudent measures to reduce incidental take. These can affect project implementation.

Since the Biological Assessment and EIS must evaluate the potential impacts on listed species, they can jointly assist in analyzing the effectiveness of alternatives and mitigation measures. EPA recommends that the final EIS and Record of Decision not be completed prior to the completion of ESA consultation. If the consultation process is treated as a separate process, the Agencies risk USFWS identification of additional significant impacts, new mitigation measures, or changes to the preferred alternative.

22. The DEIS states that proposed timber harvest and burning will reduce the existing snag level by less than one half of one percent in the project area (page 3-71). A minimum of 12 snags or recruitment snags per acre would be marked for retention, and it is expected that at least 4-6 trees/acre would provide potential cavity habitat after the project is completed, which would meet the 100% snag level for cavity species. Snag retention would focus on designating clumps of snags or pockets of trees in an exclusion area from timber harvest to offer more habitat structure and cover for cavity dwelling species from predators. The DEIS concludes that after implementation of Alternatives B and C and the other reasonably foreseeable projects, the primary cavity excavator potential population level on NFS lands would decrease by 0.3%, and remain at approximately 75%; and states that this level of snag habitat provides for an associated species population level above 40 percent, which is thought to be the minimum needed to maintain self-sustaining populations of snag-dependent wildlife (page 3-72).

Accordingly it appears that the proposed project adequately considers snag retention to maintain cavity habitat for wildlife species using that habitat (such as the black-backed woodpecker). We recommend that the wildlife biologist be contacted during vegetation treatments if nesting birds are detected, and to ensure that high quality, large diameter snags are protected.

**U.S. Environmental Protection Agency Rating System for Draft Environmental Impact Statements
Definitions and Follow-Up Action***

Environmental Impact of the Action

LO - - Lack of Objections: The Environmental Protection Agency (EPA) review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC - - Environmental Concerns: The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts.

EO - - Environmental Objections: The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU - - Environmentally Unsatisfactory: The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

Category 1 - - Adequate: EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2 - - Insufficient Information: The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses or discussion should be included in the final EIS.

Category 3 - - Inadequate: EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the National Environmental Policy Act and or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment. February, 1987.

